

Appln No. 10/552,483
Amdt date January 6, 2010
Reply to Office action of October 6, 2009

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A strain of *Bifidobacterium bifidum* having accession no. NCIMB 41171 capable of producing a galactosidase enzyme activity that converts lactose to a galactooligosaccharide mixture comprising ~~at least one~~ disaccharide Gal (α 1-6)-Gal, at least one trisaccharide selected from the group consisting of Gal (β 1-6)-Gal(β 1-4)-Glc and Gal (β 1-3)-Gal (β 1-4)-Glc, ~~at least one~~ tetrasaccharide Gal (β 1-6)-Gal(β 1-6)-Gal(β 1-4)-Glc and ~~at least one~~ pentasaccharide Gal (β 1-6)-Gal(β 1-6)-Gal (β 1-6)-Gal(β 1-4)-Glc.
2. (Cancelled)
3. (Cancelled)
4. (Previously Presented) The strain according to Claim 1, wherein the galactooligosaccharide mixture comprises from 20 to 35% w/v of the disaccharide, from 20 to 35% w/v of the trisaccharide, from 15 to 25% w/v of the tetrasaccharide and from 10 to 20% w/v of the pentasaccharide.
5. (Cancelled)
6. (Currently Amended) A galactooligosaccharide composition for promoting specific growth of bifidobacteria comprising, as effective constituents, a galactooligosaccharide mixture of at least one comprising disaccharide Gal(α 1-6)-Gal, at least one trisaccharide selected from the group consisting of Gal (β 1-6)-Gal(β 1-4)-Glc and Gal (β 1-3)-Gal (β 1-4)-Glc, ~~at least one~~ tetrasaccharide Gal (β 1-6)-Gal(β 1-6)-Gal(β 1-4)-Glc and ~~at least one~~ pentasaccharide Gal (β 1-6)-Gal(β 1-6)-Gal (β 1-6)-Gal(β 1-4)-Glc.

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7. (Cancelled)

8. (Cancelled)

9. (Currently Amended) The galactooligosaccharide composition according to Claim 6, comprising from 20 to 35% w/v of the disaccharide, from 20-35% w/v of the trisaccharide, from 15-25% w/v of the tetrasaccharide and from 10-20% w/v of the pentasaccharide.

10. (Currently amended) A composition for improving gut health comprising the galactooligosaccharide composition of claim 6 and a culture of a strain of *Bifidobacterium bifidum* capable of producing a galactosidase enzyme activity that converts lactose to [[a]] the galactooligosaccharide mixture comprising at least one disaccharide, at least one trisaccharide, at least one tetrasaccharide and at least one pentasaccharide, in combination with the galactooligosaccharide composition according to Claim 6.

11. (Currently amended) ~~A composition for promoting growth of bifidobacterium according to Claim 6, for use in a~~ A method of treatment of a human or animal by therapy, comprising:

administering a galactooligosaccharide composition of claim 6.

12. (Currently amended) ~~Use of the composition according to Claim 6, in the preparation of a medicament~~ A method for preventing adhesion of pathogens or toxins produced by pathogens to the gut wall, comprising:

administering an effective amount of the galactooligosaccharide composition of claim 6 .

13. (Currently amended) ~~Use of the composition according to Claim 6, in the preparation of a medicament~~ A method for re-establishing a normal gut flora following antibiotic treatment or surgery, comprising:

administering an effective amount of the galactooligosaccharide composition of claim 6.

14. (Cancelled)

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15. (Cancelled)

16. (Currently amended) ~~Use according to Claim 14, wherein the mixture of galactooligosaccharides are part of a~~ A product for improving gut health comprising the galactooligosaccharide composition of claim 6.

17. (Currently Amended) ~~Use according to~~ The product for improving gut health of Claim 16, wherein the product is further comprising a food or beverage selected from the group consisting of dairy products, beverages, infant foods, cereals, biscuits, confectionary, cakes, food supplements, dietary supplements, animal feeds, poultry feeds, and combinations thereof, or any other food or beverage.

18. (Currently amended) A method for the manufacture of a substance for promoting the growth of bifidobacteria ~~characterized in that~~ comprising:

treating lactose or a lactose-containing material ~~is treated~~ with [[a]] cells from the strain of *Bifidobacterium bifidum* according to of Claim 1; and

removing the cells from the treated lactose or lactose-containing material.

19. (Currently Amended) The method according to Claim 18, wherein the lactose or the lactose-containing material is selected from the group consisting of commercially-available lactose, whole milk, semi-skimmed milk, skimmed milk, whey and fat-filled milk.

20. (Original) The method according to Claim 19, wherein the milk is obtained from cattle, buffalos, sheep or goats.

21. (Currently amended) The method according to Claim 18, wherein following removal of the *Bifidobacterium bifidum* cells, the substance is spray-dried to produce a powder.

22. (New) The method of treatment of claim 11, wherein the galactooligosaccharide composition is combined with a culture of strain NCIMB 41171 from *Bifidobacterium bifidum*.

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23. (New) The method of claim 12, wherein the galactooligosaccharide composition is combined with a culture of strain NCIMB 41171 from *Bifidobacterium bifidum*.
24. (New) The method of claim 13, wherein the galactooligosaccharide composition is combined with a culture of strain NCIMB 41171 from *Bifidobacterium bifidum*.
25. (New) The product of claim 16, further comprising a culture of strain NCIMB 41171 from *Bifidobacterium bifidum*.
26. (New) A method for treating inflammatory bowel disease or irritable bowel syndrome, comprising: administering an effective amount of the galactooligosaccharide composition of claim 6.
27. (New) The method of claim 26, wherein the galactooligosaccharide composition is combined with a culture of strain NCIMB 41171 from *Bifidobacterium bifidum*.